



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,038	02/10/2004	Edward E. Parsonage	53972US011	1523
32692 7590 10/24/2007 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			EXAMINER CHEN, VIVIAN	
			ART UNIT 1794	PAPER NUMBER
			NOTIFICATION DATE 10/24/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com
LegalDocketing@mmm.com

Office Action Summary	Application No.	Applicant(s)	
	10/776,038	PARSONAGE ET AL.	
	Examiner	Art Unit	
	Vivian Chen	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 and 34-67 is/are pending in the application.
- 4a) Of the above claim(s) 49-67 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 19-21, 25-27, 32, 35-39, 44 is/are rejected.
- 7) ☒ Claim(s) 14-18, 22-24, 28-31, 34, 40-43 and 45-48 is/are objected to.
- 8) ☒ Claim(s) 49-67 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1773

DETAILED ACTION

1. Copies of WO 98/08679 and WO 96/05965 have not been provided with this Office Action because they have already been submitted by Applicant in the IDS filed 3/21/2007 as equivalents of CA 2 195 790 (= WO 96/05965) and CA 2 262 660 (=WO 98/08679).

Restrictions

1. Newly submitted claims 49-67 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

- I. Claims 1-32, 34-48, drawn to a fluoropolymer laminate structure classified in class 428, subclass 421.
- II. Claims 49-67, drawn to a resin composition, classified in class 528, subclass 310+.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination II has separate utility such as a molding composition or in use with laminates with non-fluorinated polymers. See MPEP § 806.05(d).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution

Art Unit: 1773

on the merits. Accordingly, claims 49-67 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 36 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 36 is vague and indefinite because it is dependent on a cancelled claim.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 6-7, 9-13, 19-21, 25-27, 32, 35, 37-39, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

WO 98/08679 (WO '679),

in view of CORAN ET AL (US 4,323,625).

WO '679 discloses a laminate comprising at least one fluoropolymer layer and at least one non-fluorinated thermoplastic polymer layer, wherein non-fluorinated thermoplastic layers can be present on both sides of the fluoropolymer (line 12-24, page 12). The fluoropolymer is a copolymer derived from hexafluoropropylene, tetrafluoroethylene, and optionally one or more non-fluorinated ethylenically unsaturated comonomer (e.g., ethylene) (page 5; line 1-11, page 6). The non-fluorinated thermoplastic is polyolefin which can be modified with functional groups, and can be semi-crystalline or an elastomer (line 17-31, page 7). The fluoropolymer layer is optionally surface-treated with aliphatic diamine or polyamine (page 11). The composite is optionally shaped into containers or tubes (line 3-11, page 12). The laminates are typically providing the non-fluorinated thermoplastic composition and the fluoropolymer composition, forming a multilayer composite from said compositions by conventional means, followed by optional application of heat and/or pressure (page 10). However, the reference does not explicitly disclose the presence of a non-fluorinated thermoplastic having pendent phenolic groups mixed with a base.

CORAN ET AL discloses that it is well known in the art to modify polyolefin polymers with pendent phenolic groups to produce thermoplastic compositions with improved dispersion of and adhesion to fillers to form useful reinforced resin materials. The reference also discloses that it is well known in the art to combine said phenol-modified polyolefins with an acid-neutralizing compound (e.g., a base) in order to neutralize the acids used in the modification process. (line 35-51, col. 2; line 33-63, col. 4; line 2-23, col. 5)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the phenol-modified polyolefin compositions of CORAN ET AL as

Art Unit: 1773

the non-fluorinated thermoplastic component of WO '679 in order to produce useful reinforced laminates with enhanced mechanical properties and durability. One of ordinary skill in the art would have selected commercially available and/or known fluorinated copolymers and/or elastomers (claim 6-7, 9-10) depending on the specific mechanical properties, chemical resistance, heat resistance, barrier properties, and other physical characteristics required by a given end-use. One of ordinary skill in the art would have incorporated conventional performance-enhancing additives to the various film layers (claim 32) in order to optimize the physical properties for specific applications.

3. Claims 1-5, 8-13, 26-27, 32, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

WO 96/05965 (WO '965),

in view of CORAN ET AL (US 4,323,625).

WO '965 discloses a laminate comprising a fluoropolymer layer and a non-fluorinated thermoplastic polymer layer (page 4a). The fluoropolymer is a copolymer derived from vinylidene fluoride and optionally one or more fluorinated and/or non-fluorinated ethylenically unsaturated comonomers (e.g., ethylene) (page 5). The non-fluorinated thermoplastic is polyolefin which can be modified with functional groups, and can be semi-crystalline or an elastomer (line 1-18, page 7). The composite is optionally shaped into containers or tubes (line 1-9, page 9). The laminates are typically providing the non-fluorinated thermoplastic composition and the fluoropolymer composition, forming a multilayer composite from said compositions by

Art Unit: 1773

conventional means, followed by optional application of heat and/or pressure (page 8).

However, the reference does not explicitly disclose the presence of a non-fluorinated thermoplastic having pendent phenolic groups mixed with a base.

CORAN ET AL discloses that it is well known in the art to modify polyolefin polymers with pendent phenolic groups to produce thermoplastic compositions with improved dispersion of and adhesion to fillers to form useful reinforced resin materials. The reference also discloses that it is well known in the art to combine said phenol-modified polyolefins with an acid-neutralizing compound (e.g., a base) in order to neutralize the acids used in the modification process. (line 35-51, col. 2; line 33-63, col. 4; line 2-23, col. 5)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the phenol-modified polyolefin compositions of CORAN ET AL as the non-fluorinated thermoplastic component of WO '965 in order to produce useful reinforced laminates with enhanced mechanical properties and durability. One of ordinary skill in the art would have selected commercially available and/or known fluorinated copolymers and/or elastomers, or blends thereof (claim 8-10) depending on the specific mechanical properties, chemical resistance, heat resistance, barrier properties, and other physical characteristics required by a given end-use. One of ordinary skill in the art would have incorporated conventional performance-enhancing additives to the various film layers (claim 32) in order to optimize the physical properties for specific applications.

Allowable Subject Matter

4. Claims 14-18, 22-24, 28-31, 34, 40-43, 45-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claim 36 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to disclose or suggest a laminate comprising a first fluoropolymer layer and a second layer, wherein the second layer comprise a non-fluorinated thermoplastic with pendent phenolic groups combined with a base, wherein the non-fluorinated thermoplastic with pendent phenolic groups: (1) is a polyamide (claim 14-18, 22-24); or (2) further contains pendent amine groups (claims 28-31, 40-43, 45-48); or (3) contains unsubstituted pendent phenolic groups (claims 34, 36).

Art Unit: 1773

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (571) 272-1506. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

The General Information telephone number for Technology Center 1700 is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 30, 2007



Vivian Chen
Primary Examiner
Art Unit 1773